

REMARKS

The Applicants again thank the Examiner for his thorough review of the present application in which claims 7-14 are currently pending. In the outstanding office action, the Examiner has again rejected claims 7-14 under §103(a) for the same reasons set forth in the prior office action. In response, the Applicants request reconsideration of the outstanding rejections in view of the arguments presented herein.

Claim Rejections - 35 U.S.C. §103(a)

The Examiner has rejected claims 7-14 under 35 U.S.C. §103(a) for the same reasons as set forth in the previous office action. That is, the claims are unpatentable over JP 7-108,355 (the “355 patent) and further in view of JP 2000-52,006 (the ‘006 patent). The Applicants believe they have traversed the Examiner’s §103 rejection as discussed below.

As stated previously, to establish a *prima facie* case of obviousness of a claimed invention, each and every claim limitation must be taught or suggested by the prior art. See MPEP 2143.03. Here, the ‘006 patent fails to teach or suggest an “inwardly *salient* pole tooth” as recited in claim 7.” Moreover, the ‘006 patent fails to teach or disclose a salient pole tooth having at the end of its salient part a lateral taper that extends *beyond the electrical winding*. The remaining references add nothing to the teachings of the ‘006 patent with respect to the missing elements.

The ‘006 patent does not disclose teach or suggest a *salient* pole tooth with a taper on the portion of the tooth *outside the winding*. Moreover, the ‘006 patent specifically discloses creating a non-salient pole by extending the winding along the entire length of each pole. Indeed, the translation of the ‘006 patent states that it is desirable to “roll an exiting coil 6 so that the *whole* magnetic pole may be covered.” See ‘006 patent translation page 7 of 10 (emphasis added). The patent further posits that by covering the whole magnetic pole, leakage flux 13 is reduced. See *id.* As stated previously, the ‘006 patent teaches away from applicant’s claimed invention, as it discloses covering an *entire* pole with windings thus creating a non-salient pole tooth to reduce leakage of magnetic flux. Applicants reduce flux not by creating non-salient poles but by tapering

the producing pole portion of a *salient* pole. *The choice between a salient and non-salient pole is not a simple matter of design choice.*

In sharp contrast, the Examiner cites a portion of the '006 patent for the proposition that having a tapered portion which extends beyond electrical winding of a non-tapered portion, e.g., the creation of a salient pole, is “nothing more than an obvious design choice. To support this conclusion, the Examiner quotes paragraph [0010] of the '006 patent. This paragraph states that “the distance which connects the magnetic pole point angles of adjacent magnetic pole 7 is short, magnetic flux concentrates on the magnetic path of this part, it becomes leakage flux 13.” The Examiner interprets this to mean that the inventors realized that a longer distance between the poles will reduce flux leakage yet still covered the entire pole to simply further reduce leakage.

In reaching this conclusion, the Examiner ignores §2141.02 of the MPEP, which states that a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would teach away from the claimed invention. (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)).

With this directive in mind, the Applicants note that paragraph [0010] describes one of three problems in the art that the '006 patent addresses. Indeed, paragraph [0012], directly below [0010], states that “there is much leakage flux from a part for the magnetic pole point which is not covered with exiting coil 6, and there is little molten steel penetration magnetic flux 12, and the field which rolls exiting coil 6 is narrow, and big magnetomotive force cannot be acquired.” In other words, when a coil does not cover an entire pole, large magnetomotive forces cannot be generated. The invention disclosed in the '006 patent addresses this issue, as well as the problem presented in [0010], in a very direct way, i.e., by covering the entire pole with windings creating a non-salient pole tooth.

Indeed, there is not a single teaching, suggestion or disclosure to use a salient pole to solve these problems anywhere within the '006 patent. As stated previously, the

'006 patent teaches away from the Applicants claimed invention as it directs one of skill in the art to a non-salient solution. Again, the '006 patent does not teach or suggest tapering a pole tooth without extending the electrical winding all the way to the end thereby creating a non-salient tooth.

The remaining references, U.S. Pat. Nos. 4,256,156 and 4,834,168 add nothing to the teachings of the '006 patent with respect to the missing elements. As such, claims 7-14 are believed allowable.

CONCLUSION

Applicants believe it has traversed each objection and rejection raised by the Examiner, it is hereby respectfully requested that Examiner withdraw the rejections of claims 7-14 and pass these claims to issue.

If necessary, the Commissioner is hereby authorized in this reply to charge payment or credit any overpayment to Deposit Account No. 13-0235 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Do not hesitate to call Applicants' attorneys at the number below if they may help expedite the prosecution of this application in any way.

Respectfully submitted,

By /Kevin H. Vanderleeden/
Kevin H. Vanderleeden
Registration No. 51,096
Attorney for Applicant(s)

Customer No. 35301
McCORMICK, PAULDING & HUBER LLP
CityPlace II, 185 Asylum Street
Hartford, CT 06103-4102
Tel: (860) 549-5290
Fax: (413) 733-4543